

THESES BASED ON INDIVIDUAL ACCOMPLISHMENTS THE PARADOX OF ARCHITECTURAL DESIGN

Dénes PATONAI

Geotechnical Research Group of the Hungarian Academy of Sciences at the TUB
Department of Building Constructions
Budapest University of Technology and Economics
H-1521 Budapest, Hungary

Received: Mai 25, 2005

Abstract

Construction and architecture are interrelated and the connection between them is architectural design. Architectural design is a set of intellectual instruments that applies architectural space as a material. The architectural space is such an artificially created space that implies the scale of human values characteristic of the culture that created it.

Keywords: architecture, construction, architectural design, architectural space.

1. Introduction

For practising architects and university teachers, it is inevitable to discover the internal connections in design, and within that, in architectural design in particular.

Design involves a very broad spectrum of human activities. In the course of designing, man employs his aptitude for logical thinking, which enables him to construct a rational series of actions of an extremely complicated process, and to think its stages over. Such a process may be rather complex (often far more complex than the series of actions in architectural design), however, it significantly differs from the process of architectural design.

2. Construction and Architecture

The connection between architectural design and the completed project needs to be examined in the process of construction and after completion.

Construction is a rational activity of humans; an action of the society by which it "transforms the natural world in an artificial way". We can declare that construction creates objects using available materials, utilizing a technological know-how and experience, and more and more advanced and specialized methods of assembly.

Architecture is the abstract manifestation, the intellectual essence of a rational process that is construction. Architecture emerges from the interaction, intellectual interference or differentiation of cultures of independent background and building

standards. It unfolds and expands in style, until reaching the intellectual limits of style; or, in case cultures merge, the dominant culture (which has the power to alter the other one) transforms architecture's spirituality itself: the weaker one adopts the dominant spirituality, and metamorphoses in the interaction.

Construction is a rational, material activity that aims at creating buildings and structures.

Architecture is a scale of intellectual values of cultural and traditional merit.

3. Architectural Design

Construction and architecture, as two components of a process, are interrelated, and the medium, i.e. the connection between them is architectural design. As I mentioned in the introduction, design is a basic human activity, which distinguishes man from other living beings. People, as members of a society, can create an artificial world, a civilization, in opposition to nature, by the help of concerted design work. This paper does not provide a detailed analysis of design work as a general human activity, however, focusing on architectural design, it gives its specific features as follows:

Architectural design means	making an optimal choice from	
	the available material elements,	space time materials technology
	the given intellectual elements	tradition creativity demand regulations
	and the potential and viable solutions.	

There may be several good (optimal) architectural answers (i.e. solutions) for a design question (i.e. design problem) with given space and time conditions.

The architectural plan is an answer to a question. Certainly, seeking the optimal solution may involve comparing the answers in order to find the most advantageous one. This happens in the deliberation process of an architectural design competition, where the design that is considered as the most optimal balance is sought. In the course of deliberation, some aspects may be given priority over others, for example creativity over factors of realizability, or vice versa.

The previously mentioned two components, construction (the rational one) and architecture (the one comprising intellectual merits) are interrelated within architectural design, which obviously requires a knowledge of both activities. Nothing material is produced during architectural design, since that is done in construction. Architectural design cannot be assessed on material basis, at most on the basis of the

quality of man-made space, which reflects the level of architecture and the related culture.

As presented before, real materials are used in construction, and construction quality may be assessed on the basis of materials. However, construction quality is not equivalent to architectural quality.

The architectural plan specifies the instructions in the process of architectural design. The plan must specify what means are applied in the realization process to display its intellectual merits. This is the point that forms a strong bond between architecture and arts. The intellectual merits of a plan, like that of any piece of art, cannot be appraised accurately using quantitative methods.

In order to find a way to analyse architectural designing, we need to specify what sort of medium is applied in the course of architectural design.

This medium is an indefinable, inexact, constantly changing, incorporeal void, which can be recreated and regenerated. It is a scale of intellectual values, which can be recomposed again and again, and which carries the intellectual ethos that transforms into a building in the course of construction. This is how architecture emerges.

This medium is the architectural space.

Space is not material, and thus a designed shape and material are needed to form it into an artificial space. Therefore, emotional aptitude, intellectual identity, talent and creativity are vitally important and determining requisites in architectural design. This is not eliminated, at most restricted, by the fact that a complex construction process may distort the original idea or, in an extreme case, realization may prove unfeasible.

In conclusion, the capacity of architecture to create space and form is the fundamental condition of the origination of architectural merits.

4. Architectural Space

The material used in architectural design is the architectural space.

All the design theories intend to establish a special way of composing architectural space, and this is where various design schools derive from.

As an augmentation and elucidation of this train of thought, I must add that a certain **man-made space** can be considered as architectural space only if it has the special merits of the architectural space.

Architectural space can represent such a merit, which may outlive the building itself as a space structure of human value. In such a case, the space becomes independent of the material and develops into a part of world civilisation (sacred architecture, flat structure and cultural traditions).

The architectural space is such a man-made, artificially created space that implies the scale of human values, characteristic of the culture that created it.

Therefore, we need to exclude those spaces from the category of architectural space, which do not conform to the scale of values characteristic of architectural

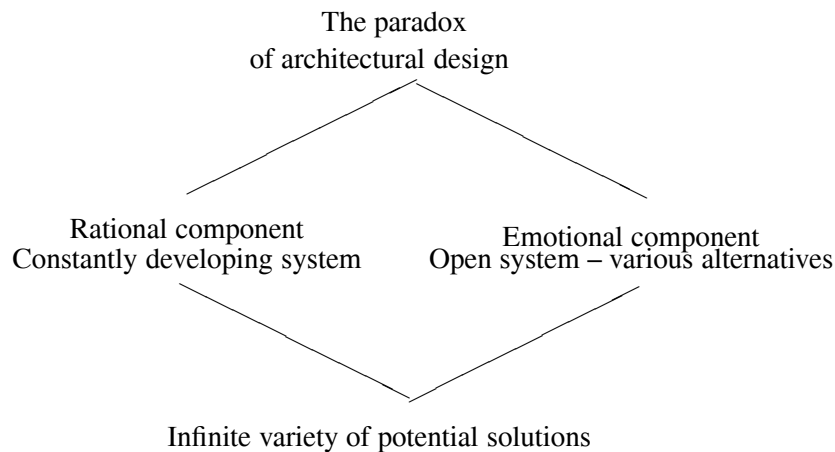
Statue Linear engineering product Man's closest environment Industrial objects with accessible internal space	Spatial piece of art Created in space but having no internal space Minimal human space (e.g. clothing, gravity suit) Car, airplane	Not architecture
Internal spaces without external space Volumes with minimal internal space	Casemate, cave Pyramid	Components of the architectural space
Human space	Possesses cultural merits The building serves as a habitable space for humans A world created by humans Based on the balance of man-made world and natural environment	Architectural space

space and which do not imply a cultural identity (e.g. internal spaces of vehicles, and industrially mass-produced space systems, which should rather be considered as habitable objects).

5. The Paradox of Architectural Design

The specific features of architectural design are on as follows:

The material used in architectural design is space.



Architectural design is such a set of intellectual instruments that applies architectural space as a material. The paradox of architectural design is that

the emotional component dominates and determines the tendency of rationality. Thus, it cannot be reached only by rational means. It is an open system, which is confined only by the realities of the economical and cultural environment.

The above brief analysis intends to prove that *architecture*, which receives an intellectual form in the course of *architectural design* and is *realised* during *construction*, is basically an open system, in which emotional virtues (talent, intellectual identity and creativity) are of basic importance, in spite of the increasing proportion of the predominant rational elements.

Architecture belongs to the free category of arts, although it is forming a closer and closer bond with the realities of the economy. This does not exclude the contradictory fact that the architectural products of the increasingly fast, industrialised construction technology, similarly to industrial products, devalue the intellectual merits of architecture.

Therefore, education should involve more than providing students with a knowledge of the profession: it is of primary importance to help them evolve their creativity, as cherishing intellectual talent is the only way to assure that our culture will survive.

6. Summary – How to Utilize the Presented Ideas in Design Practice

‘Form is not to be copied but created instead.’

Based on this concept, the outline of my credo in design practice is as follows:

- The architect’s medium of creation is space, while the civil engineer applies real material and the related theory.
- The architect creates space based on his scale of ideas.
- The architect’s task is to find the solution for a problem, to create an architectural space that has not been designed and did not exist before.
- A building cannot exist in an abstract space, only in a real space, thus, a building must be created in a concrete, material reality. The plan carries the conception of the building, so it can exist without material and environment. However, when the plan becomes real and the building is completed, the plan exerts an intellectual influence via the building.
- There are several ways of exploring reality, but there is only one for the architect. I call it the reality of time, which was not the same before and will not be the same afterwards.

The product defined by the architect in space has a profound influence on the user. Therefore,

- the durability and toughness,
- the psychological depreciation,
- the intellectual durability and
- the social potential (cultural acceptance and adoption)

of the product is of vital importance.

Durable material alone is not sufficient, and an existing but abstract intellectual merit alone (which is just an architectural plan at the extreme) is not sufficient either, since *an architectural design can have an influence on people only via the realized space*. Thus, the architectural design exerts an influence by means of the completed building. However, an extremely unique architectural design can have only a limited intellectual effect. Although such a design should not be underrated, a design can most effectively influence people, if its system of forms generates new architectural concepts. If a well-composed architectural space is accepted by the society, and it embeds itself in the society's consciousness, its form will keep modulating through reiteration, it will gel and it will be refined, and finally it may become a respected part of the culture. That is why I acknowledge not only great architects who establish new styles but also those who convey and spread new architectural concepts. Even if their activity is not spectacular, it is quite substantial, since it serves the spread of a culture's architecture, and this is what actually generates strong cultural identity.

Only if we understand the internal paradox of architectural design can we define its role and assess its merits.

The incorporeal medium that we call architectural space may be more significant in our everyday lives than we may rationally think.

Recognizing this idea and making it generally acknowledged should be a cause supported not only by architects.